RAW SEQUENCE LISTING
ERROR REPORT

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Application Serial Number: 10 057,532

Source: DISC

Date Processed by STIC: 7\11\02

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FOR SEQUENCE RULES INTERPRETATION, PLEASE CONTACT ROBERT WAX, 703-308-4216.
PATENTIN 2.1 e-mail help: **patin21help@uspto.gov** or phone 703-306-4119 (R. Wax)
PATENTIN 3.0 e-mail help: **patin3help@uspto.gov** or phone 703-306-4119 (R. Wax)

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Any reply including a sequence listing in electronic form should NOT be sent to the 20231 zip code address for the United States Patent and Trademark Office, and instead should be sent via the following to the indicated addresses:

1. EFS-Bio (**<http://www.uspto.gov/ebc/efs/downloads/documents.htm>** , EFS Submission User Manual - ePAVE)
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Revised 01/29/2002

OIPE

**Does Not Comply
Corrected Diskette Needed**

RAW SEQUENCE LISTING   DATE: 07/11/2002
PATENT APPLICATION: US/10/057,532   TIME: 16:04:57

Input Set : **A:\Sequence.txt**
Output Set: **N:\CRF3\07112002\J057532.raw**

W--> (3 /14) - delete
```
10 <110> APPLICANT: Lyon, Jeffrey A.
11         Angov, Evelina
12         Cohen, Joe D.
13         Voss, Gerald
15 <120> TITLE OF INVENTION: Recombinant P. falciparum Merozoite Protein-142 Vaccine
17 <130> FILE REFERENCE: 003/238/SAP
19 <140> CURRENT APPLICATION NUMBER: US 10/057,532
```
C--> 21 <141> CURRENT FILING DATE: 2002-06-28
```
23 <150> PRIOR APPLICATION NUMBER: US 60/264,535, US 60/347,564
```
W--> 25 <151> PRIOR FILING DATE: 2001-01-26, 2001-10-26
```
27 <160> NUMBER OF SEQ ID NOS: 12
29 <170> SOFTWARE: Apple Macintosh Microsoft Word 6.0
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ERRORED SEQUENCES

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31 <210> SEQ ID NO: 1
32 <211> LENGTH: 546
33 <212> TYPE: PRT
34 <213> ORGANISM: Artificial sequence
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W--> 35 <220> FEATURE:
```
36 <223> OTHER INFORMATION: E. coli expressed P. falciparum MSP142 (3D7) Protein Sequence
in pET-Trx42
```
W--> 37 <400> SEQUENCE: 1
```
38 Met Ser Asp Lys Ile Ile His Leu Thr Asp
39 1               5                   10
40 Asp Ser Phe Asp Thr Asp Val Leu Lys Ala
41               15                  20
42 Asp Gly Ala Ile Leu Val Asp Phe Trp Ala
43               25                  30
```
                                          → invalid amino designator
E--> 44 Glu Trp Cys Gly Pro (Ccy) Lys Met Ile Ala
```
45               35                  40
46 Pro Ile Leu Asp Glu Ile Ala Asp Glu Tyr
47               45                  50
48 Gln Gly Lys Leu Thr Val Ala Lys Leu Asn
49               55                  60
50 Ile Asp Gln Asn Pro Gly Thr Ala Pro Lys
51               65                  70
52 Tyr Gly Ile Arg Gly Ile Pro Thr Leu Leu
53               75                  80
54 Leu Phe Lys Asn Gly Glu Val Ala Ala Thr
55               85                  90
56 Lys Val Gly Ala Leu Ser lys Gly Gln Leu
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RAW SEQUENCE LISTING
PATENT APPLICATION: US/10/057,532

DATE: 07/11/2002
TIME: 16:04:57

Input Set : **A:\Sequence.txt**
Output Set: **N:\CRF3\07112002\J057532.raw**

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 57                  95                 100
 58 Lys Glu Phe Leu Asp Ala Asn Leu Ala Gly
 59                 105                 110
 60 Ser Gly Ser Gly His Met His His His His
 61                 115                 120
 62 His His Ser Ser Gly Leu Val Pro Arg Gly
 63                 125                 130
 64 Ser Gly Met Lys Glu Thr Ala Ala Ala Lys
 65                 135                 140
 66 Phe Glu Arg Gln His Met Asp Ser Pro Asp
 67                 145                 150
 68 Leu Gly Thr Asp Asp Asp Asp Lys Ala Met
 69                 155                 160
 70 Ala Asp Ile Gly Ser Ile Glu Gly Arg Gly
 71                 165                 170
 72 Thr Met Ala Ile Ser Val Thr Met Asp Asn
 73                 175                 180
 74 Ile Leu Ser Gly Phe Glu Asn Glu Tyr Asp
 75                 185                 190
 76 Val Ile Tyr Leu Lys Pro Leu Ala Gly Val
 77                 195                 200
 78 Tyr Arg Ser Leu Lys Lys Gln Ile Glu Lys
 79                 205                 210
 80 Asn Ile Phe Thr Phe Asn Leu Asn Leu Asn
 81                 215                 220
 82 Asp Ile Leu Asn Ser Arg Leu Lys Lys Arg
 83                 225                 230
 84 Lys Tyr Phe Leu Asp Val Leu Glu Ser Asp
 85                 235                 240
 86 Leu Met Gln Phe Lys His Ile Ser Ser Asn
 87                 245                 250
 88 Glu Tyr Ile Ile Glu Asp Ser Phe Lys Leu
 89                 255                 260
 90 Leu Asn Ser Glu Gln Lys Asn Thr Leu Leu
 91                 265                 270
 92 Lys Ser Tyr Lys Tyr Ile Lys Glu Ser Val
 93                 275                 280
 94 Glu Asn Asp Ile Lys Phe Ala Gln Glu Gly
 95                 285                 290
 96 Ile Ser Tyr Tyr Glu Lys Val Leu Ala Lys
 97                 295                 300
 98 Tyr Lys Asp Asp Leu Glu Ser Ile Lys Lys
 99                 305                 310
100 Val Ile Lys Glu Glu Lys Glu Lys Phe Pro
101                 315                 320
102 Ser Ser Pro Pro Thr Thr Pro Pro Ser Pro
103                 325                 330
104 Ala Lys Thr Asp Glu Gln Lys Lys Glu Ser
105                 335                 340
```

```
106 Lys Phe Leu Pro Phe Leu Thr Asn Ile Glu
107             345                     350
108 Thr Leu Tyr Asn Asn Leu Val Asn Lys Ile
109             355                     360
110 Asp Asp Tyr Leu Ile Asn Leu Lys Ala Lys
111             365                     370
112 Ile Asn Asp Cys Asn Val Glu Lys Asp Glu
113             375                     380
114 Ala His Val Lys Ile Thr Lys Leu Ser Asp
115             385                     390
116 Leu Lys Ala Ile Asp Asp Lys Ile Asp Leu
117             395                     400
118 Phe Lys Asn Pro Tyr Asp Phe Glu Ala Ile
119             405                     410
120 Lys Lys Leu Ile Asn Asp Asp Thr Lys Lys
121             415                     420
122 Asp Met Leu Gly Lys Leu Leu Ser Thr Gly
123             425                     430
124 Leu Val Gln Asn Phe Pro Asn Thr Ile Ile
125             435                     440
126 Ser Lys Leu Ile Glu Gly Lys Phe Gln Asp
127             445                     450
128 Met Leu Asn Ile Ser Gln His Gln Cys Val
129             455                     460
130 Lys Lys Gln Cys Pro Glu Asn Ser Gly Cys
131             465                     470
132 Phe Arg His Leu Asp Glu Arg Glu Glu Cys
133             475                     480
134 Lys Cys Leu Leu Asn Tyr Lys Gln Glu Gly
135             485                     490
136 Asp Lys Cys Val Glu Asn Pro Asn Pro Thr
137             495                     500
138 Cys Asn Glu Asn Asn Gly Gly Cys Asp Ala
139             505                     510
140 Asp Ala Thr Cys Thr Glu Glu Asp Ser Gly
141             515                     520
142 Ser Ser Arg Lys Lys Ile Thr Cys Glu Cys
143             525                     530
144 Thr Lys Pro Asp Ser Tyr Pro Leu Phe Asp
145             535                     540
146 Gly Ile Phe Cys Ser Ser
147             545
149 <210> SEQ ID NO: 2
151 <211> LENGTH: 431
152 <212> TYPE: PRT
153 <213> ORGANISM: Artificial sequence
W--> 154 <220> FEATURE:
155 <223> OTHER INFORMATION: E. coli expressed P. falciparum MSP142 (3D7) Protein
Sequence in pET(50)MSP1-42
W--> 156 <400> SEQUENCE: 2
```

```
     157 Met His His His His His His Ser Ser Gly
     158 1                   5                   10
     159 Leu Val Pro Arg Gly Ser Gly Met Lys Glu
     160                     15                  20
     161 Thr Ala Ala Ala Lys Phe Glu Arg Gln His
     162                     25                  30
     163 Met Asp Ser Pro Asp Leu Gly Thr Asp Asp
     164                     35                  40
     165 Asp Asp Lys Ala Met Ala Asp Ile Gly Ser
     166                     45                  50
     167 Ile Glu Gly Arg Gly Thr Met Ala Ile Ser
     168                     55                  60
     169 Val Thr Met Asp Asn Ile Leu Ser Gly Phe
     170                     65                  70
     171 Glu Asn Glu Tyr Asp Val Ile Tyr Leu Lys
     172                     75                  80
     173 Pro Leu Ala Gly Val Tyr Arg Ser Leu Lys
     174                     85                  90
     175 Lys Gln Ile Glu Lys Asn Ile Phe Thr Phe
     176                     95                  100
     177 Asn Leu Asn Leu Asn Asp Ile Leu Asn Ser
     178                     105                 110
     179 Arg Leu Lys Lys Arg Lys Tyr Phe Leu Asp
     180                     115                 120
     181 Val Leu Glu Ser Asp Leu Met Gln Phe Lys
     182                     125                 130
     183 His Ile Ser Ser Asn Glu Tyr Ile Ile Glu
     184                     135                 140
     185 Asp Ser Phe Lys Leu Leu Asn Ser Glu Gln
E--> 186             155 145             150
     187 Lys Asn Thr Leu Leu Lys Ser Tyr Lys Tyr
E--> 188                 165 155             160
     189 Ile Lys Glu Ser Val Glu Asn Asp Ile Lys
E--> 190                 175 165             170
     191 Phe Ala Gln Glu Gly Ile Ser Tyr Tyr Glu
E--> 192                 185 175             180
     193 Lys Val Leu Ala Lys Tyr Lys Asp Asp Leu
E--> 194                 195 185             190
     195 Glu Ser Ile Lys Lys Val Ile Lys Glu Glu
E--> 196                 205 195             200
     197 Lys Glu Lys Phe Pro Ser Ser Pro Pro Thr
E--> 198                 215 205             210
     199 Thr Pro Pro Ser Pro Ala Lys Thr Asp Glu
E--> 200                 225 215             220
     201 Gln Lys Lys Glu Ser Lys Phe Leu Pro Phe
E--> 202                 235 225             230
     203 Leu Thr Asn Ile Glu Thr Leu Tyr Asn Asn
E--> 204                 245 235             240
     205 Leu Val Asn Lys Ile Asp Asp Tyr Leu Ile
```

invalid amino numbering

```
E--> 206                    255                    250
     207 Asn Leu Lys Ala Lys Ile Asn Asp Cys Asn
E--> 208                    265                    260
     209 Val Glu Lys Asp Glu Ala His Val Lys Ile
E--> 210                    275                    270
     211 Thr Lys Leu Ser Asp Leu Lys Ala Ile Asp
E--> 212                    285                    280
     213 Asp Lys Ile Asp Leu Phe Lys Asn Pro Tyr
E--> 214                    295                    290
     215 Asp Phe Glu Ala Ile Lys Lys Leu Ile Asn
E--> 216                    305                    300
     217 Asp Asp Thr Lys Lys Asp Met Leu Gly Lys
E--> 218                    315                    310
     219 Leu Leu Ser Thr Gly Leu Val Gln Asn Phe
E--> 220                    325                    320
     221 Pro Asn Thr Ile Ile Ser Lys Leu Ile Glu
E--> 222                    335                    330
     223 Gly Lys Phe Gln Asp Met Leu Asn Ile Ser
E--> 224                    345                    340
     225 Gln His Gln Cys Val Lys Lys Gln Cys Pro
E--> 226                    355                    350
     227 Glu Asn Ser Gly Cys Phe Arg His Leu Asp
E--> 228                    365                    360
     229 Glu Arg Glu Glu Cys Lys Cys Leu Leu Asn
E--> 230                    375                    370
     231 Tyr Lys Gln Glu Gly Asp Lys Cys Val Glu
E--> 232                    385                    380
     233 Asn Pro Asn Pro Thr Cys Asn Glu Asn Asn
E--> 234                    395                    390
     235 Gly Gly Cys Asp Ala Asp Ala Thr Cys Thr
E--> 236                    405                    400
     237 Glu Glu Asp Ser Gly Ser Ser Arg Lys Lys
E--> 238                    415                    410
     239 Ile Thr Cys Glu Cys Thr Lys Pro Asp Ser
E--> 240                    425                    420
     241 Tyr Pro Leu Phe Asp Gly Ile Phe Cys Ser
E--> 242                    435                    430
     243 Ser
     493 <210> SEQ ID NO: 7
     494 <211> LENGTH: 391
     495 <212> TYPE: PRT
     496 <213> ORGANISM: Artificial sequence
W--> 497 <220> FEATURE:
     497 <223> OTHER INFORMATION: E. coli expressed P. falciparum MSP-142 (3D7)
E--> 498 <400> SEQUENCE: 7
     499 Met Ala His His His His His His Pro Gly
     500  1               5                    10
     501 Gly Ser Gly Ser Gly Thr Met Ala Ile Ser
     502                  15                    20
```

[handwritten annotations: "invalid amino numbering", "<220> was missing → header field mandatory"]

Input Set : A:\Sequence.txt
Output Set: N:\CRF3\07112002\J057532.raw

```
503  Val Thr Met Asp Asn Ile Leu Ser Gly Phe
504              25                      30
505  Glu Asn Glu Tyr Asp Val Ile Tyr Leu Lys
506              35                      40
507  Pro Leu Ala Gly Val Tyr Arg Ser Leu Lys
508              45                      50
509  Lys Gln Ile Glu Lys Asn Ile Phe Thr Phe
510              55                      60
511  Asn Leu Asn Leu Asn Asp Ile Leu Asn Ser
512              65                      70
513  Arg Leu Lys Lys Arg Lys Tyr Phe Leu Asp
514              75                      80
515  Val Leu Glu Ser Asp Leu Met Gln Phe Lys
516              85                      90
517  His Ile Ser Ser Asn Glu Tyr Ile Ile Glu
518              95                      100
519  Asp Ser Phe Lys Leu Leu Asn Ser Glu Gln
520              105                     110
521  Lys Asn Thr Leu Leu Lys Ser Tyr Lys Tyr
522              115                     120
523  Ile Lys Glu Ser Val Glu Asn Asp Ile Lys
524              125                     130
525  Phe Ala Gln Glu Gly Ile Ser Tyr Tyr Glu
526              135                     140
527  Lys Val Leu Ala Lys Tyr Lys Asp Asp Leu
528              145                     150
529  Glu Ser Ile Lys Lys Val Ile Lys Glu Glu
530              155                     160
531  Lys Glu Lys Phe Pro Ser Ser Pro Pro Thr
532              165                     170
533  Thr Pro Pro Ser Pro Ala Lys Thr Asp Glu
534              175                     180
535  Gln Lys Lys Glu Ser Lys Phe Leu Pro Phe
536              185                     190
537  Leu Thr Asn Ile Glu Thr Leu Tyr Asn Asn
538              195                     200
539  Leu Val Asn Lys Ile Asp Asp Tyr Leu Ile
540              205                     210
541  Asn Leu Lys Ala Lys Ile Asn Asp Cys Asn
542              215                     220
543  Val Glu Lys Asp Glu Ala His Val Lys Ile
544              225                     230
545  Thr Lys Leu Ser Asp Leu Lys Ala Ile Asp
546              235                     240
547  Asp Lys Ile Asp Leu Phe Lys Asn Pro Tyr
548              245                     250
549  Asp Phe Glu Ala Ile Lys Lys Leu Ile Asn
550              255                     260
551  Asp Asp Thr Lys Lys Asp Met Leu Gly Lys
```

```
552                 265                 270
553 Leu Leu Ser Thr Gly Leu Val Gln Asn Phe
554                 275                 280
555 Pro Asn Thr Ile Ile Ser Lys Leu Ile Glu
556                 285                 290
557 Gly Lys Phe Gln Asp Met Leu Asn Ile Ser
558                 295                 300
559 Gln His Gln Cys Val Lys Lys Gln Cys Pro
560                 305                 310
561 Glu Asn Ser Gly Cys Phe Arg His Leu Asp
562                 315                 320
563 Glu Arg Glu Glu Cys Lys Cys Leu Leu Asn
564                 325                 330
565 Tyr Lys Gln Glu Gly Asp Lys Cys Val Glu
566                 335                 340
567 Asn Pro Asn Pro Thr Cys Asn Glu Asn Asn
568                 345                 350
569 Gly Gly Cys Asp Ala Asp Ala Thr Cys Thr
570                 355                 360
571 Glu Glu Asp Ser Gly Ser Ser Arg Lys Lys
572                 365                 370
573 Ile Thr Cys Glu Cys Thr Lys Pro Asp Ser
574                 375                 380
575 Tyr Pro Leu Phe Asp Gly Ile Phe Cys Ser
576                 385                 390
577 Ser
```

RAW SEQUENCE LISTING ERROR SUMMARY
PATENT APPLICATION: US/10/057,532

DATE: 07/11/2002
TIME: 16:04:58

Input Set : **A:\Sequence.txt**
Output Set: **N:\CRF3\07112002\J057532.raw**

<u>**Invalid Line Length:**</u>
The rules require that a line not exceed 72 characters in length. This includes spaces.

Seq#:1; Line(s) 36
Seq#:2; Line(s) 155

VERIFICATION SUMMARY
PATENT APPLICATION: **US/10/057,532**

DATE: 07/11/2002
TIME: 16:04:58

Input Set : **A:\Sequence.txt**
Output Set: **N:\CRF3\07112002\J057532.raw**

```
L:3 M:259 W: Allowed number of lines exceeded, (1) GENERAL INFORMATION:
L:21 M:271 C: Current Filing Date differs, Replaced Current Filing Date
L:25 M:256 W: Invalid Numeric Header Field, Wrong Prior FILING DATE:YYYY-MM-DD
L:35 M:283 W: Missing Blank Line separator, <220> field identifier
L:37 M:283 W: Missing Blank Line separator, <400> field identifier
L:44 M:330 E: (2) Invalid Amino Acid Designator, NUMBER OF INVALID KEYS:1
L:154 M:283 W: Missing Blank Line separator, <220> field identifier
L:156 M:283 W: Missing Blank Line separator, <400> field identifier
L:186 M:332 E: (32) Invalid/Missing Amino Acid Numbering, SEQ ID:2
M:332 Repeated in SeqNo=2
L:250 M:283 W: Missing Blank Line separator, <220> field identifier
L:252 M:283 W: Missing Blank Line separator, <400> field identifier
L:339 M:283 W: Missing Blank Line separator, <400> field identifier
L:376 M:283 W: Missing Blank Line separator, <400> field identifier
L:458 M:283 W: Missing Blank Line separator, <220> field identifier
L:460 M:283 W: Missing Blank Line separator, <400> field identifier
L:497 M:258 W: Mandatory Feature missing, <220> not found for SEQ ID#:7
L:498 M:200 E: Mandatory Header Field missing, <220> not found for SEQ ID#:7
L:498 M:283 W: Missing Blank Line separator, <400> field identifier
L:584 M:283 W: Missing Blank Line separator, <220> field identifier
L:586 M:283 W: Missing Blank Line separator, <400> field identifier
L:593 M:283 W: Missing Blank Line separator, <220> field identifier
L:595 M:283 W: Missing Blank Line separator, <400> field identifier
L:605 M:283 W: Missing Blank Line separator, <220> field identifier
L:607 M:283 W: Missing Blank Line separator, <400> field identifier
L:615 M:283 W: Missing Blank Line separator, <220> field identifier
L:617 M:283 W: Missing Blank Line separator, <400> field identifier
L:626 M:283 W: Missing Blank Line separator, <220> field identifier
L:628 M:283 W: Missing Blank Line separator, <400> field identifier
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